

THE
ASTRONOMY
OF
FIXED STARS;

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CONCISELY DEDUCED
FROM
ORIGINAL PRINCIPLES,
AND
PREPARED FOR APPLICATION
TO
GEOGRAPHY AND NAVIGATION.

PART I.

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THE
ASTRONOMY OF FIXED STARS.

SECTION I. *Of the Constellations.*

THE Constellations are either old or new. There are Forty-Eight old Constellations that were known to the Greek Philosophers two thousand five hundred years since; and it is probable that some of them were known to much earlier ages in the eastern parts of the World.

The new Constellations are not a few, and cannot be expressed, because they have been formed, at different times, in latter Ages, and by different Astronomers, each according to his own particular Fancy.

Both the old and new Constellations are designed for perpetuating the memory of persons or things to succeeding Ages, the history of heroic exploits and remarkable transactions of the Ancients and Moderns.

The Constellations are the outlines or bounds of certain Figures intended to be represented; and the Fixed Stars within those bounds are said to be in their respective Constellations. The largest, or rather brightest Stars, are said to be of the first magnitude, and so on to the sixth and seventh magnitude; after which the eye must be assisted by Telescopes to distinguish them.

The Stars of the first magnitude are but few: those smaller than the seventh magnitude are innumerable. The Stars of the first, first and second, second, second and third magnitudes, are of most use in Nautical Astronomy: the smaller Stars are for nice inquiries concerning the System of the Universe.

The old Constellations contain the principal Stars of greatest magnitudes; these have the names given them by the Ancients, and some of them the names of the Constellations to which they belong. The new Constellations in general are formed of the small Stars.

By the laws of Astronomy, all the Stars belonging to a Constellation keep nearly in the same places, and the Constellations

stellations at the same distances from each other; but not at the same distance and in the same position with respect to the Circles of the celestial Sphere.

The place of a Star in the Heavens, when expressed by its Constellation, is known by that part of the Figure in which it is; and when expressed by the Circles of the Sphere, it is known by the Degrees and Minutes where it is amongst those Circles.

In Astronomy it is therefore necessary to retain the Constellations; and the reasons why the Ancients so instituted them, are to be sought for in the History of the earliest Ages of the World.

The next great Improvement for knowing the Stars, and calling them by their names, was the putting of a small Greek letter to each Star in a Constellation, beginning with a Star of the greatest magnitude in the Constellation, and the first small Greek letter, and proceeding thus with the other Stars. This enabled Astronomers to name a vast number of Stars, and assign their places among the Circles of the Sphere: for, when the Greek Alphabet is exhausted, the Roman and Italian Alphabets may be applied for any number of Constellations and Stars whatever. This is the method now practised, at the most refined places for astronomical Science throughout the World.

There is, therefore, a necessity for retaining the Constellations in Astronomy, and the places in the Heavens where the Stars belonging to them are, and have been found; because, if they are not retained, some other method for the like purposes, with less advantages, must be introduced in their stead.

In this method, the celestial Equator expresseth the Stars' Right Ascensions, and the celestial Meridians do express their Declinations north or south to the Poles. The Ecliptic is for expressing their Longitudes from its beginning; and the Circles of Latitude north and south, are perpendicular thereto, to the ecliptic Poles.

The

II. *The Constellations described.*

The Constellations of the Zodiac.

1. ARIES, the Ram, for the Golden Fleece.
2. TAURUS, the Bull, combating with Orion.
3. GEMINI, the Twins, naked Castor and Pollux.
4. CANCER, the Crab-fish, otherwise the Lobster.
5. LEO, the Lion, conquered by Hercules.
6. VIRGO, the Virgin, a sun-burnt Reaper.
7. LIBRA, the Balance, with Scales and Fulcrum.
8. SCORPIO, the Scorpion that killed Orion.
9. SAGITTARIUS, the Archer and Horseman.
10. CAPRICORNUS, the fish-tailed Goat.
11. AQUARIUS, the Water-bearer and Pourer.
12. PISCES, the Fishes in the wide Ocean.

III. The Constellations North of the Zodiac.

1. ANDROMEDA, the Daughter of Cassiopea.
2. TRIANGULUM, the celestial N. Triangle.
3. PERSEUS, with the gorgon Head of Medusa.
4. AURIGA, the Phaeton-driver and the Goat.
5. BOOTES, the Waggoner and Herdsman.
6. CORONA BOREALIS, the northern Crown.
7. OPHIUCHUS, or Serpentarius, Serpent-bearer.
8. AQUILA, the Eagle killed by Hercules.
9. SAGITTA, the Arrow that killed the Eagle.
10. DELPHINUS, the Dolphin, an old Constellation.
11. EQUULUS, the young Horse, Nag, or Colt.
12. PEGASUS, the winged or flying Horse.
13. CASSIOPEA, the Mother of Andromeda.
14. URSA MAJOR, the Great Bear and Pointers.
15. URSA MINOR, the Little Bear near the Pole.
16. HERCULES, with a Club and clinched Fist.
17. CEPHEUS, a King with Crown and Sceptre.
18. DRACO, the Dragon round the ecliptic Pole.
19. CYGNUS, the Swan in the Milky-way.
20. SERPENS, the Serpent under Ophiuchus.
21. LYRA, the grecian Harp of Orpheus.

IV.

IV. *The Constellations South of the Zodiac.*

1. CETUS, the Whale, or great Leviathan.
2. ERIDANUS, a long and irregular River.
3. ORION, Neptune's Son fighting the Bull.
4. CANIS MAJOR, the great Dog, with Sirius.
5. CANIS MINOR, the little Dog, with Procyon.
6. ARGO NAVIS, the Ship Argo with Oars.
7. HYDRA, the Water-Serpent of great length.
8. CENTAURUS, the Centaur or famous Chiron.
9. PISCIS AUSTRALIS, the Southern Fish.
10. The HARE. 11. The Cup. 12. The RAVEN.
13. The WOLF. 14. The ALTAR. 15. S. CROWN.

These are the old Forty-eight Constellations that were known to the Greeks more than two thousand five hundred years since, and are retained in Astronomy at this time.

The Arrangement of the Fixed Stars in such intricate Figures, shews that the Ancients thought those Stars would remain in the same positions among themselves in after Ages; which they could not have then supposed, if Observations had not been made earlier than their own, proving this doctrine in the surface of the concave Celestial Sphere. The Recession of the Equinoctial Points and Precession of the Stars in Longitude, cannot be supposed to have been known in those early Ages; and the Observations in those times without doubt were made by the naked eye, without the assistance of accurate and curious Instruments.

The Deception of Sight and Judgment that now obtains in Observations with the naked eye obtained then, and this was no small impediment to their judging concerning celestial Angles and Distances; otherwise they had the Radius of the Heavens for Distances, and for Angles the same measure. As this Judgment is deceived in Distances, so is it deceived in spherical Angles, because those Angles arise from Distances whether real or deceptive; and this Deception is at least three times as much near the Horizon as near the Zenith.

V. Constellations near the Meridian.

1. 5 Obs. January 1, at Midnight.
The Lynx's W. part, the W. part of the Twins, the Unicorn, Canis Major the great Dog, the W. part of the Ship.
2. 5 Obs. January 10 at Midnight.
The Lynx, Gemini the Twins, Canis minor the little Dog, the Unicorn, the Ship.
3. 5 Obs. January 20, at Midnight.
The Great Bear's Head, the Lynx, Cancer the Crab, the Unicorn, the Ship.
4. 4 Obs. February 1, at Midnight.
The Great Bear's forepart, the Hydra, the Ship's E. part, the Root of the Royal Oak.
5. 7 Obs. February 10, at Midnight.
The forepart of the Great Bear, forepart of Leo minor, forepart of Leo the Lion, the Sextant, the Hydra, the Ship, the Royal Oak.
6. 6 Obs. February 20, at Midnight.
Urfa Major the Great Bear, Leo Minor, Leo the Lion, the Sextant, the Hydra, the Oak.
7. 5 Obs. March 1, at Midnight.
The Pointers in the Great Bear, the hind parts of Leo minor and Leo the Lion, the Crater or Cup, the Royal Oak.
8. 5 Obs. March 10, at Midnight.
The Middle of Great Bear's Square, the Tail of the Lion, the Head of Virgo, the Cup, the hind part of the Centaur.
9. 7 Obs. March 20, at Midnight.
The End of the Dragon's Tail, the Great Bear's Rump, Coma Berenices, Virgo the Virgin a sun-burnt Reaper, Corvus the Raven, the hind part of the Centaur, the Crofiers or Cross.
10. 4 Obs. April 1, at Midnight.
The Great Bear's Tail, Cor Caroli the constellated Heart, Virgo the Virgin Reaper, the Centaur part Man and part Horse.

11. 6 Obs. April 10, at Midnight.
The Tail of Draco the Dragon, the End of Great Bear's Tail, the Greyhounds, the W. Foot of Bootes the Herdsman, Virgo the Virgin, the Centaur part Marr part Horse.
12. 4 Obs. April 20, at Midnight.
The Tail of Draco, the W. Side of Bootes, the Feet of Virgo, the Centaur.
13. 6 Obs. May 1, at Midnight.
The Head of Urfa minor the little Bear, Draco, the Head and E. part of Bootes, the W. Scale of the Balance, E. Side of the Centaur, W. Side of the Wolf.
14. 7 Obs. May 10, at Midnight.
Urfa minor the little Bear, Draco the Dragon, the N. Crown, W. parts of the Serpent, E. Scale of the Balance, the Wolf, the South Triangle.
15. 7 Obs. May 20, at Midnight.
Urfa minor, Draco, the kneeling Knee and Club of Hercules, the Serpent, Scorpio the Scorpion, the Altar, the South Triangle.
16. 5 Obs. June 1, at Midnight.
Urfa minor, the kneeling Man Hercules, Ophiucus or the Serpent bearer, Scorpio the Scorpion, and Ara the Altar.
17. 5 Obs. June 10, at Midnight.
Urfa minor, Draco, E. Side of Hercules, E. Side of the Serpent-bearer, the Altar.
18. 5 Obs. June 20, at Midnight.
Draco, the W. Sides of Lyra the Harp, and Sagittarius the Archer, and the South Crown, and the Peacock.
19. 4 Obs. July 1, at Midnight.
Draco the Dragon, Lyra the Harp, Sagittarius the Archer, the Peacock.
20. 6 Obs. July 10, at Midnight.
The E. part of Draco, the Swan's Bill, Aquila the Eagle, Antinous, Sagittarius, Peacock.

21. 8 Obs. July 20, at Midnight.
Cygnus the Swan, the Fox, the Dolphin, the Bow
of Antinous, Capricornus the Goat, E. part of Sagit-
tarius, Indus, the Peacock.
22. 5 Obs. August 1, at Midnight.
The W. Side of Cepheus, the Swan, the Goat, In-
dus the Indian, the Peacock.
23. 5 Obs. August 10, at Midnight.
King Cepheus, Equulus the Colt, Pegasus the flying
Horse, Aquarius the Water-bearer, Indus.
24. 6 Obs. August 20, at Midnight.
Cepheus, the Lizard, Pegasus, Aquarius, the South
Fish, Grus.
25. 3 Obs. September 1, at Midnight.
Cepheus, Pegasus, the Water of Aquarius.
26. 5 Obs. September 10, at Midnight.
Cepheus, Pegasus, the W. Fish, the Water of
Aquarius, the Toucan.
27. 7 Obs. September 20, at Midnight.
The E. part of K. Cepheus, the W. part of Cassiopea,
the W. part of Andromeda, Pegasus's Wing, the
Phoenix, the Toucan, the Hydrus.
28. 7 Obs. October 1, at Midnight.
Cassiopea, Andromeda, the N. Fish and Line, the
Whale's Tail, the Phoenix, the Toucan, the Hydrus.
29. 7 Obs. October 10, at Midnight.
Cassiopea, Andromeda, the N. Fish and Line, the
great Whale, the Phoenix, Eridanus a River, the
Hydrus toward the S. Pole.
30. 8 Obs. October 20, at Midnight.
Cassiopea, Andromeda, the Sword of Perseus, the
Triangle, Aries the Ram, the Whale, the River Eri-
danus, the Hydrus.
31. 5 Obs. November 1, at Midnight.
Perseus, the Ram, Whale, Eridanus, Hydrus.
32. 4 Obs. November 10, at Midnight.
Perseus, Head of Medusa, Eridanus, Hydrus.
33. 4 Obs. November 20, at Midnight.
The W. part of Camelopardalus, Perseus, Taurus the
Bull, Eridanus.

34. 4 Obs.

34. 4 Obs. December 1, at Midnight.
The Camelopardalus, Taurus the Bull, the W. part
of Orion, the Sword Fish.
35. 6 Obs. December 10, at Midnight.
The Camelopardalus, Auriga the Phaeton-driver
with the Goat, Orion armed, the Hare, the Dove, the
Sword-fish.
36. 6 Obs. December 20, at Midnight,
The Camelopardalus, the Head of Lynx, E. part of
Orion, the Hare, the Dove, the Sword-fish.

This Table, shewing the Meridian Transits of the Constellations to every tenth day, is sufficient for shewing their places nearly at the intermediate days; because, at every fifth day, the Middle, between the preceding and following Constellations, will be on the Meridian at Midnight. By this method the Meridian Transits at Midnight are nearly shewn for any Day, and their equatorial Distance from the Meridian, at any given Hour of the Night, when they are near the Meridian, sufficiently exact for finding the Stars in those Constellations, throughout the year.

This Table, as it now is, contains near two hundred Observations; and if it be farther used, according to these directions, some hundreds of Observations may be made by it, and the Stars in their Constellations readily found and applied, according to the instructions for that purpose.

It may be observed, that the Constellations begin to make their meridional Transits at Midnight, with their west parts, and end with their east parts. For Example, August 1, K. Cepheus's west part transits, and, September 20, his east part transits; so, during the interval of fifty days, some part of his Body will transit the Meridian at Midnight. The like for other Constellations, although of less intervals. By this many more Observations than the above-mentioned may be made. As the principal Stars are in the Constellations to which they belong, and such Constellations may be easily found by the foregoing, at Sea or Land (the rough Latitude of the place and magnetic Variation being applied) those principal Stars may be easily found near Midnight, and the smaller Stars near them, as they are posited in the Heavens.

VI. *Midnight Meridian Transits of Stars.*

Names of Stars near the Meridian at Midnight.

1. Jan. 1. α SIRIUS, in Canis Major the Great Dog; the largest and brightest Star in the Heavens.
2. Jan. 8. α CASTOR in the Head of the W. Twin; known by its bearing and distance from Pollux.
3. Jan. 10. α PROCYON, in Canis Minor the Little Dog, known by its situation to Castor and Sirius.
4. Jan. 11. β POLLUX, in the Head of the E. Twin, known by its bearing and distance from Castor.
5. Feb. 5. α COR HYDRÆ, in the Water-Serpent's Heart, known by its bearing and distance from Regulus.
6. Feb. 15. α REGULUS, Cor Leonis the Lion's Heart, the southmost of four, three of them less.
7. March 1. β S. POINTER, the South Pointer in the Gr. Bear, known by being south from the North Pointer.
8. March 1. α N. POINTER, the North Pointer in Gr. Bear, known by being north from the South Pointer.
9. March 4. δ LION'S RUMP, more north than the Lion's Tail, and meridian Transit a little after the Pointers.
10. March 14. β DENEK, in the Lion's Tail, more south and more east than the Lion's Rump Delta.
11. March 21. γ Gr. B. RUMP, Delta in Ursa Major, fourth Star in the Tail, and near the equinoctial Colure.
12. April 1. ϵ ALIOTH, Epsilon in Ursa Major, a double Star, third Star in the Tail of the Great Bear.
13. April 9. α SPICA Virginis the Virgin's Spike, on the Meridian, nearly with second, in Gr. Bear's Tail.
14. April 16. η BENENACZ, Eta in Ursa Major, the first Star at the end of the Great Bear's Tail.
15. April 23. α ARCTURUS, in Bootes the Herdsman, a large Star on the Meridian with no other large Star.
16. May 27. α ANTARES, the Scorpion's Heart, a large Star amidst others that form the Scorpion.
17. June 27. α LYRA, the brightest Star in the Harp, with small ones near, making a small Triangle.
18. July 10. β ALBIRO, the Swan's Bill, on the Meridian between Altair, and two in the foot of Sagittarius.
19. July 15. α ALTAIR, the brightest in the Eagle, between the Swan's Bill and two in the Head of Capricorn,

Names of Stars near the Meridian at Midnight.

20. July 25. γ DENE^B, the Swan's Breast, on the Meridian nearly with two in the head of Capricorn.
21. The Head of CAPRICORN, Alpha a double star, and Beta single, on the Meridian, before Deneb in the Swan.
22. July 28. α ARIDE^F, in the Swan's Tail, on the Merid. nearly with two in the Swan and two in the Dolphin.
23. Sept. 2. α FOMALHAUT, a large Star in S. Fish, on the Meridian, nearly with Markab and Scheat.
24. Sept. 4. β SCHEAT, in Pegafus, on the Meridian, nearly with Markab South and Omicron Androm. North.
25. Sept. 4. α MARKAB, in Pegafus' Wing, on the Meridian, nearly with Scheat N. and Fomalhaut. S.
26. Sept. 23. γ ALGENIB, Gamma in Pegafus' Wing, on the Meridian, nearly with Alpha in Andromeda.
27. Sept 30. α SCHER^ER, Alpha in Cassiopea, on the Meridian, after Beta, nearly with three in Andromeda.
28. Oct. 6. α POLE STAR, shews the Transits of other Stars whose right ascensions are nearly equal.
29. Oct. 8. β MIRACH, Beta in the Girdle of Andromeda, between Alpha in the Head and Alamac the Foot.
30. Oct. 17. α ACHERNAR, a large Star in the River Erid. on the Meridian, a little before Alpha in Aries.
31. Oct. 22. γ ALAMAC, in the Foot of Andromeda, on the Meridian, a little before Alpha in Aries.
32. Nov. 6. α MENCAR, in the Whale's lower Jaw, on Meridian, nearly with Algol in Medusa's Head.
33. Nov. 7. β ALGOL, in the gorgon Head of Medusa, on the Meridian, nearly with the Whale's Jaw.
34. Nov. 11. α ALGENIB, in Perseus' Side, on Merid. a little after Algol and Whale's Jaw Mencar.
35. Nov. 29. α ALDEBARAN, South Eye of the Bull, Mid. between the Pleiades and W. Shoulder of Orion.
36. Dec. 7. α CAPELLA, in Auriga with the Goat, on the Meridian, nearly with Orion's W. Foot Rigel.
37. Dec. 8. β RIGEL, in Orion's W. Foot, near Meridian, with Capella, N. Horn of Taurus, and Bellatrix.
38. Dec. 10. γ BELLATRIX, in Orion's W. Shoulder, on Meridian, nearly with Beta N. Horn of Taurus.
39. Dec. 17. α BETELGEUSE, Orion's E. Shoulder, near Merid. with Or. E. Knee and Auriga's E. Shoulder.
40. Dec. 25. α CANOPUS, in the ship Argo, on Meridian, nearly with Beta, W. Foot of Canis Major.

VII. *Names of Principal Fixed Stars.*

	<i>Names of Stars.</i>	<i>Mag.</i>	<i>Constellations.</i>
1.	γ Gamma in Pegasus's Wing.	2.	Pegasus.
2.	α Alpha in Cassiopea. Sheder.	3.	Cassiopea.
3.	β Beta in Cetus, the Whale.	2.	The Whale.
4.	α Alpha, Pole Star near the Pole.	2.3.	Ursa Minor.
5.	β Beta in Andromeda's Girdle.	2.	Andromeda.
6.	α Alpha in the River Eridanus.	1.	Eridanus.
7.	γ Gamma in Aries the Ram.	4.	Aries the Ram.
8.	β Beta in Aries the Ram.	3.4.	Aries the Ram.
9.	γ Gamma in Androm. Alamac.	2.	Andromeda.
10.	α Alpha in Aries the Ram.	3.	Aries the Ram.
11.	α Alpha in the Whale's Jaw.	2.	The Whale.
12.	β Beta in Perseus, Medusa. Algol.	2.	Perseus.
13.	α Alpha in Perseus's Side. Algenib.	2.	Perseus.
14.	η Eta in the Seven Stars. Pleiades.	3.	Taurus.
15.	α Alpha in Taurus. Aldebaran.	1.	Taurus.
16.	α Alpha in Auriga. Capella.	1.	Auriga.
17.	β Beta in Orion's Foot. Rigel.	1.	Orion.
18.	β Beta North Horn of Taurus.	2.	Taurus.
19.	γ Gamma Orion. Bellatrix.	2.	Orion.
20.	η Eta, Hilt of Orion's Sword.	2.	Orion.
21.	δ Delta, Top of Orion's Belt.	2.	Orion.
22.	ϵ Epsilon mid. Orion's Belt.	2.	Orion.
23.	ζ Zeta So. end Orion's Belt.	2.	Orion.
24.	κ Kappa Orion's E. Knee.	2.3.	Orion.
25.	α Alpha Orion. Betelgeuse.	1.	Orion.
26.	β Beta Foot of Canis Major.	2.3.	Gr. Dog.
27.	α Alpha in the Ship. Canopus.	1.	Argo navis.
28.	α Alpha Canis Major. Sirius.	1.	Gr. Dog.
29.	δ Delta in Canis Major.	2.	Gr. Dog.
30.	η Eta Tail of Canis Major.	2.	Gr. Dog.
31.	α Alpha in Gemini. Castor.	1.	Twins.
32.	α Alpha in Canicula. Procyon.	1. 2.	Little Dog.
33.	β Beta in Gemini. Pollux.	2. 3.	The Twins.
34.	ζ Zeta in Argo navis, Ship Argo.	2.	Argo navis.
35.	γ Gamma in Argo navis.	2.	Argo navis.
36.	β Beta in the Oar of the Ship.	1.	Argo navis.

NAMES OF PRINCIPAL FIXED STARS.

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	<i>Names of Stars.</i>	<i>Ma g.</i>	<i>Constellations.</i>
37.	α Alpha in Hydra. Hydra's Heart.	2.	Hydra.
38.	α Alphain Leo. Lion's Heart. Regulus.	1.	Leo, Lion
39.	η Eta in Argo navis, Ship Argo.	2.	Argo navis
40.	β Beta Urfa Major. S. Pointer.	2.	Gr. Bear.
41.	α Alpha Urfa Major. N. Pointer.	2.	Gr. Bear.
42.	δ Delta in Leo. Lion's Rump.	2.3.	Leo, Lion.
43.	β Beta in Leo. Lion's Tail.	2.	Leo, Lion.
44.	β Beta in Virgo the Virgin.	3.	Virgo.
45.	γ Gamma in Gr. Bear's Rump.	2.	Gr. Bear.
46.	δ Delta over Gr. Bear's Rump.	3.	Gr. Bear.
47.	α Alpha in the Crofiers or Crofs.	1.	Crofiars.
48.	γ Gamma in the Crofiers or Crofs.	2.	Crofiars.
49.	β Beta in the Crofiers or Crofs.	2.	Crofiars.
50.	ϵ Epsilon in Gr. Bear's Tail. Alioth.	2.	Gr. Bear.
51.	α Alpha in Virgo. Virgin's Spike.	1.	Virgo.
52.	ζ Zeta fecond in Gr. Bear's Tail.	2.	Gr. Bear.
53.	η Eta end Gr. Bear's Tail. Benenacz.	2.	Gr. Bear.
54.	β Beta in the foot of the Centaur.	2.	Centaur.
55.	α Alpha in Bootes. Arcturus.	1.	Bootes.
56.	α Alpha E. Foot of the Centaur.	1.	Centaur.
57.	α Alpha in the W. Scale of Libra.	2.3.	Balance.
58.	β Beta in E. Scale of Libra.	2.3.	Balance.
59.	β Beta in Scorpio the Scorpion.	2.	Scorpio.
60.	α Alpha in Scorpio. Antares.	1.	Scorpio.
61.	α Alpha Head of Ophiuchus.	2.3.	Ophiuchus
62.	γ Gamma E. Shoulder of Ophiu.	3.	Ophiuchus
63.	α Alpha in Lyra the Harp.	1.	The Harp.
64.	β Beta in Cygnus. Swan's Bill.	3.	Swan.
65.	α Alpha in Aquila. Altair.	1.2.	Aquila.
66.	γ Gamma in Cygnus. Deneb.	3.	The Swan.
67.	α Alpha in Cygnus. Swan's Tail.	2.	The Swan.
68.	α Alpha in S. Fish. Fomalhaut.	1.	S. Fish.
69.	β Beta in Pegafus's Thigh. Scheat.	2.	Pegafus.
70.	α Alpha in Pegafus Wing. Markab.	2.	Pegafus.
71.	α Alpha the Head of Andromeda.	2.	Androm.
72.	β Beta in Caffiopea's Chair.	2.3.	Caffiopea.
			1. From

14 APPARENT DISTANCES OF FIXED STARS.

		Deg. Min.	Constellations.
1.	From Aldebaran to α in Aries	35. 32	Aries.
2.	From Aldebaran to Algol	30. 53	Medusa.
3.	From Aldebaran to Capella	30. 41	Auriga.
4.	From Aldebaran to Mirach	49. 26	Androm.
5.	From Aldebaran to Castor	43. 12	Gemini.
6.	From Aldebaran to Pollux	45. 4	Gemini.
7.	From Aldebaran to Procyon	46. 20	Canicula.
8.	From Aldebaran to Mencar	26. 7	Cetus.
9.	From Aldebaran to Betelgeuse	22. 17	Orion.
10.	From Aldebaran to Rigel	26. 30	Orion.
11.	From Aldebaran to Alamac	41. 25	Androm.
12.	From Pollux to Foot Gem.	19. 30	Gemini.
13.	From Pollux to Algen. Per.	53. 21	Perseus.
14.	From Pollux to Procyon	22. 46	Canicula.
15.	From Regulus to Arcturus	59. 46	Bootes.
16.	From Regulus to Procyon	37. 22	Canicula.
17.	From Regulus to Castor	40. 32	Gemini.
18.	From Regulus to Pollux	37. 1	Gemini.
19.	From Regulus to Cor Caroli	45. 36	Cor Caroli.
20.	From Regulus to Benenacz	58. 20	Urfa Major.
21.	From Regulus to Spica	54. 3	Virgo.
22.	From Spica to Cor Hydræ	58. 28	Hydra.
23.	From Spica to Antares	45. 54	Scorpio.
24.	From Pole Star to N. Pointer	28. 43	Urfa Major.
25.	From Pole Star to S. Pointer	34. 5	Urfa Major.
26.	From Pole Star to Castor	57. 55	Gemini.
27.	From Pole Star to Pollux	61. 50	Gemini.
28.	From Pole Star to Capella	43. 24	Auriga.
29.	From Pole Star to Mirach	53. 41	Androm.
30.	From Pole Star to Scheder	32. 49	Cassiopea.
31.	From Pole Star to Alioth	34. 43	Urfa Major.
32.	From Pole Star to Benenacz	39. 25	Urfa Major.
33.	From Capella to Castor	30. 0	Gemini.
34.	From Capella to Pollux	34. 17	Gemini.
35.	From Capella to α in Aries	44. 7	Aries.
36.	From Capella to Procyon	51. 7	Canicula.
	37. From		

APPARENT DISTANCES OF FIXED STARS. 15

		Deg. Min.	Constellations.
37.	From Arcturus to Lyra	58. 56	The Harp.
38.	From Arcturus to N. Pointer	53. 49	Ursa Major.
39.	From Arcturus to S. Pointer	51. 33	Ursa Major.
40.	From Arcturus to Alioth	39. 42	Ursa Major.
41.	From Arcturus to Benenacz	30. 29	Ursa Major.
42.	From Arcturus to Antares	47. 26	Scorpio.
43.	From Sirius to Mencar	58. 51	Cetus.
44.	From Sirius to Procyon	25. 41	Canicula.
45.	From Sirius to Cor Hydræ	40. 18	Hydra.
46.	From Sirius to Rigel	23. 42	Orion.
47.	From Procyon to Castor	25. 16	Gemini.
48.	From Procyon to Pollux	22. 46	Gemini.
49.	From Procyon to Betelgeuse	26. 1	Orion.
50.	From Procyon to Rigel	38. 35	Orion.
51.	From Altair to Scheat	49. 16	Pegasus.
52.	From Altair to Markab	47. 48	Pegasus.
53.	From Altair to Antares	60. 11	Scorpio.
54.	From Scheat to Scheder	33. 15	Cassiopea.
55.	From Scheat to Markab	12. 52	Pegasus.
56.	From Scheat to Alamac	38. 57	Androm.
57.	From Scheat to Lyra	55. 29	The Harp.
58.	From N. H. Taurus to α in Aries	27. 8	Aries.
59.	From N. H. Taurus to Alamac	42. 44	Androm.
60.	From N. H. Taurus to Algol	30. 40	Medusa
61.	From N. H. Taurus to Castor	27. 48	Gemini.
62.	From N. H. Taurus to Pollux	30. 34	Gemini.
63.	From N. H. Taurus to Procyon	39. 13	Canicula.
64.	From N. H. Taurus to Betelgeuse	22. 17	Orion.
65.	From N. H. Taurus to Algenib	31. 22	Pegasus.
66.	From N. H. Taurus to α in Aries	44. 43	Aries.
67.	From Markab to α Androm.	20. 2	Androm.
68.	From Markab to α in Aries	43. 37	Aries.
69.	From Castor to Rigel	52. 13	Orion.
70.	From Mencar to α in Androm.	48. 9	Androm.
71.	From Alamac to α in Aries	18. 52	Aries.
72.	From Scheder to Algol	28. 22	Medusa.

I. PROCYON

IX. *Stars of nearly equal Right Ascension.*

1. PROCYON, and the Middle between Castor and Pollux.
2. REGULUS, and Eta in the forepart of Leo the Lion.
3. Gamma, and Zeta in the forepart of Leo the Lion.
4. Delta, and Theta in the hind part of the Lion.
5. Beta, and Omicron in the end of the Lion's Tail.
6. The North and South Pointers, in the Great Bear.
7. Beta in the Head of Virgo, and Gamma Ursa Major.
8. COR CAROLI the constellated Heart, and Alioth Gr. Bear.
9. COR CAROLI and Vindematrix in the Arm of Virgo.
10. SPICA VIRGINIS, and the second in Gr. Bear's Tail.
11. FOMALHAUT, in South Fish, and Scheat in Aquarius.
12. MARKAB in Pegasus Wing, and Scheat in Pegasus.
13. Gamma in Pegasus Wing, and the Head of Androm.
14. Beta in Perseus, and Alpha in the Head of Androm.
15. SCHEDER in Cassiopea, and Beta in the Whale's Tail.
16. Alpha in the Head of Aries, and Alamac in Androm.
17. MENCAR in the Whale's Jaw, and Algol Medusa's head.
18. RIGEL in Orion's West Foot, and Capella in the Goat.
19. BELLATRIX, Orion's W. Shoulder, and N. Horn of Taurus.
20. BETELGEUSE, Orion's E. Shoulder, and Beta in Auriga.
21. CANOPUS in the Ship, and Gamma bright Foot of Gemini.
22. SIRIUS in Canis Major, and Theta the Twins, N. W. Arm.
23. The northernmost and southernmost Stars in the Cross.
24. ARCTURUS, and between the Centaur's eastern Feet.

X. *Stars having nearly the same Longitude.*

1. Alpha in Aries, and Alpha in the S. point of the Triangle.
2. MENCAR the Whale's Jaw, and Alamac in Androm.
3. Eta and Zeta, in the Head of Leo Major the Gr. Lion.
4. REGULUS and Gamma, parallel with Eta and Zeta in Leo.
5. COR CAROLI, between Benenacz and Deneb Leo.
6. Gamma and Delta in the Rump of the Gr. Bear.
7. SPICA VIRGINIS the Virgin's Spike, and Arcturus in Bootes.
8. ALTAIR in the Eagle, and Beta in the Swan's Bill.
9. Alpha double, and Beta single, in Capricornus.
10. Beta the Whale's Tail, and Scheat Beta in Pegasus.
11. CANOPUS in the Ship, and the bright Foot of Gemini.
12. CAPELLA in Auriga, and Delta N. Star in Orion's Belt.

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